

Flare-CME Events in a Superactive Region

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Flare-CME events in a superactive region, NOAA 8100, have been studied, using a data base that consists of photospheric vector magnetograms, H α and H β filtergrams, SOHO EIT and LASCO, and Yohkoh SXT images. The following results are obtained. 1) There were 5 main emerging flux regions (EFRs) and several key sites of flux cancellation. The newly emerging flux and its driven flux cancellation were likely to result in the expansion of the large-scale flux loops, which became sigmoidal. 2) All flare-CME events were initiated at the narrow magnetic interface between a major EFR and its impacted higher magnetic loops. 3) Each event showed nearly simultaneous occurrences of the flare, dimming and CME in widely-separated areas. This indicates an energization of a globally connected large-scale loop system. Eruptions of giant solar magnetic loops seem to be responsible for extended CMEs.

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